

REMARKS

Reconsideration of the above-identified application in view of the foregoing amendments and following remarks is respectfully requested.

Status of the Claims

Claim 7 is currently pending and stands rejected. By this paper, claim 7 is amended, and new claims 9-12 are added. No new matter has been added by this amendment.

Rejection under 35 U.S.C. §103

Claim 7 has been rejected under U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,359,701 to Yamada et al. ("Yamada") in view of U.S. Patent No. 6,067,101 to Arakawa et al. ("Arakawa") and U.S. Patent No. 6,652,063 to Shimamura et al. ("Shimamura").

The Final Office Action indicates, *inter alia*, that Yamada discloses "clearing the flag after the refreshing step (Column 48, Lines 12-21), Yamada et al discloses a hard power-off clears all the stored times, and a hard power-on resets all the flags and variables." (page 2 of the Final Office Action) The Office Action indicates that Yamada does not disclose expressly the "counting means," "refreshing the internal time," and "setting a flag in a register." The Office Action then cites Arakawa as disclosing the flag setting means and determining means of the present invention, and cites col. 5, lines 40-47 of Arakawa. The Office Action further cites Shimamura as disclosing that "counting means is operated by power supplied from a battery; counting means having a power abnormal inside counting means (Figure 13, Column 5, Lines 5-13; Column 12, Lines 15-22); refreshing means for refreshing the internal time with a predetermined time when it is determined that the battery abnormality has occurred based on the result from the determining means (Figure 12; Column 11, Lines 49-59), for the purpose of a recovery operation for discharge failure in an adequate manner and at a proper timing." The

Office Action goes on stating that “it would have been obvious ... to incorporate the teaching of counting means is operated by power supplied from a battery; refreshing the internal time ...; a flag in a register ...; determining ... as taught by Arakawa et al and Shimamura et al into the device of Yamada et al, for the purpose of allowing a quick and reliable judgment for detecting the voltage of the battery and making a recovery operation ...”

One of the aspects of the present invention as featured in the pending claim 7 is directed to a method of controlling a printing apparatus in a situation where any battery abnormality occurred in the counting means (e.g., a timer) that counts time for a periodic maintenance operation. The method uses a flag configured to be set in the register of the counting means when a battery abnormality for the counting means has occurred. When the flag is set in the register, it is determined that the internal time of the counting means was affected by the battery abnormality. Subsequently, the internal time of the counting means is refreshed with an updated time and the maintenance operation is executed based on the updated internal time preventing any maintenance delay even when there was a malfunction in the counting means. The present inventive method further includes a step of clearing the flag after the internal time is refreshed with an updated time to prevent the same operation from happening again when the printing apparatus is powered on next time.

Applicant notes that Yamada discloses a multi-head printer in which a printing resolution is controlled by controlling ink droplet size, nozzle ejection sequence, and readout order from the print buffer etc. One of the cited portions by the Examiner (i.e., col. 18, lines 34-46) discloses a conventional scheduling for the print head cleaning in which real time/date information is received from an external source. In other words, it appears that there is no counting means in the Yamada's printing apparatus to count the time for a periodic cleaning operation, i.e., the time

information is simply “stored” after received from the external source. As a result, there is no power abnormal flag inside the counting means as required by claim 7.

Arakawa discloses a power source circuit having a charge circuit for charging a chargeable battery. In particular, the Arakawa’s power source circuit includes a circuitry for detecting a battery voltage periodically, a device for judging the life of the battery by comparing a detected result with a reference value, and a device for stopping the charge of the battery based on the judgment. Applicant notes that a portion of Arakawa (e.g., col. 15, lines 40-47) merely teaches that a low battery flag is set when the battery is judged as unusable.

Shimamura discloses an ink jet printer in which a recovery operation is performed based on recording data supplied from a main body of an information processing apparatus. In other words, the recovery operation in Shimamura is not based on a regular basis as is required in the present invention. For example, the present invention requires executing a periodic maintenance operation after activation. See, e.g., the preamble of claim 7. It appears that the Examiner refers to the timer 57 of Shimamura to equate the counting means of the present invention. However, the Shimamura’s timer is inside the processing apparatus 25, and is not inside the ink jet printing device as is required by claim 7. Moreover, the resetting step of Shimamura causes finishing of the present procedure which appears to be an opposite result as compared to the present invention. See, e.g., col. 11, lines 49-59; and col. 12, lines 15-22 of Shimamura. In contrast, the refreshing step of claim 7 leads to a continuous counting operation for upcoming execution of maintenance operation.

Accordingly, Applicant believes that the Final Office Action fails to establish a prima facie case of obviousness. To establish a prima facie case of obviousness, there must be (1) a showing that all claim elements are present in the cited references, MPEP § 2143.03, and (2)

some suggestion or motivation, either in the references themselves or in the general knowledge available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP § 2143.01. Because both of these requirements have not been met, a proper prima facie case of obviousness has not been set forth in the Final Office Action and the rejection should be withdrawn.

Moreover, Applicant believes that the Final Office Action uses an improper hindsight reconstruction against the present invention. The Final Office Action relies on Arakawa and Shimamura to remedy the deficiencies of Yamada. It is a well-established point of law that there must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the art of invention would make the combination of two or more references, i.e., the teaching or suggestion to make the claimed combination must be found in the prior art, not in the applicant's disclosure.

The examiner tried to remedy the lack of suggestion or motivation by indicating that "the test for combining references is not what the individual references themselves suggest but rather what the combination of the disclosure taken as a whole would suggest to one of ordinary skill in the art."

As Applicant understands it, however, there is no suggestion or motivation in either Yamada, Arakawa or Shimamura of the desirability of combining, e.g., a counter in a printing apparatus with a flag in a register configured to be set for a battery abnormality. Moreover, even if the combination was permissible, such a combination is still insufficient to support the rejection against the present claim 7 which recite "clearing the flag after said refreshing step" performed in the register of the counting means inside the printing apparatus. There is simply nothing in either of the cited references that teaches this aspect of invention.

Nonetheless, claim 7 has been amended for further clarification of the present invention as discussed above. In particular, amended claim 7 recites, *inter alia*, “the timer is operated by power supplied from a local battery and configured to set an internal flag when a power failure of the local battery has occurred ... setting an updated time as the internal time when the power failure has occurred based on the result from said determining step where the updated time reflects correction from an error caused by the power failure of the local battery.”

With the features of the present invention, when an abnormality (e.g., a power failure) occurs in the timer battery, an accurate time can be automatically set without any involvement of the user. See, e.g., page 16, lines 19-25 of the original specification.

Applicant believes that amended claim 7 further distinguishes over the teachings of the cited references (i.e., Yamada, Arakawa and Shimamura) either taken alone or in combination.

Reconsideration and withdrawal of the rejection of claim 7 under 35 U.S.C. §103(a) is respectfully requested.

New claims 9-12 have been added to recite the claimed invention in an alternative manner. Specifically, each of claims 9-12 depends from claim 7 either directly or indirectly. Claims 9-12 are accordingly believed to be allowable for at least the similar reasons as for claim 7. Support for the new claims may be found, for example, at page 16, line 19 through page 17, line 3 of the original specification.

Applicant believes that the application as amended including the new claims is in condition for allowance and such action is respectfully requested.

AUTHORIZATION

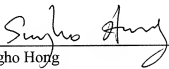
No petitions or additional fees are believed due for this amendment and/or any accompanying submissions. However, to the extent that any additional fees and/or petition is required, including a petition for extension of time, Applicant hereby petitions the Commissioner to grant such petition, and hereby authorizes the Commissioner to charge any additional fees, including any fees which may be required for such petition, or credit any overpayment to Deposit Account No. 13-4500 (Order No. 1232-5260). A DUPLICATE COPY OF THIS SHEET IS ENCLOSED.

An early and favorable examination on the merits is respectfully requested.

Respectfully submitted,
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Dated: February 21, 2007

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AUTHORIZATION

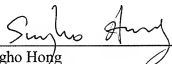
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